

# EAST Search History

10/820, 822

| Ref # | Hits | Search Query  | DBs                                | Default Operator | Plurals | Time Stamp       |
|-------|------|---|------------------------------------|------------------|---------|------------------|
| S1    | 66   | (fuel with cell) and (sensor with volume with change)   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 13:39 |
| S2    | 4    | 429/22.ccls. and (fuel with cell) and (sensor with volume with change)  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/03 14:18 |
| S3    | 1    | 429/22.ccls. and (fuel with diluent with stor\$4) and (fuel with stor\$4) and (sensor with concentration) and (control with unit) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:21 |
| S4    | 2    | 429/22.ccls. and (fuel with diluent with stor\$4) and (sensor with concentration) and (controller)                                | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:28 |
| S5    | 3    | 429/22.ccls. and (fuel with diluent with stor\$4) and (sensor with concentration)   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/06 14:46 |
| S6    | 3    | 429/22.ccls. and (fuel with diluent with stor\$4)   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:26 |
| S7    | 5    | "429".clas. and (fuel with diluent with stor\$4)  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:27 |
| S8    | 4    | "429"/.clas. and (fuel with diluent with stor\$4) and (sensor with concentration) and (controller)                                | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:28 |
| S9    | 5    | "429".clas. and (fuel with diluent with stor\$4) and (sensor with concentration)  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:28 |
| S10   | 39   | "429".clas. and (fuel with by\$1product with stor\$4)   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 14:44 |
| S11   | 36   | "429".clas. and (water with by\$product with stor\$4)   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 15:15 |
| S12   | 27   | "429".clas. and (water with (recycle recip\$7) with stor\$4)  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/01 15:30 |
| S13   | 25   | "6303244"   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR               | ON      | 2006/12/16 15:54 |

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|     |    |   |   |    |     |                  |
|-----|----|---|---|----|-----|------------------|
| S14 | 18 | ("4125676"   "4350608"   "4395322"   "4526843"   "4728533"   "4738903"   "4745953"   "4766043"   "4810597"   "4824739"   "5013618"   "5225391"   "5294232"   "5294580"   "5335628"   "5415888"   "5561000"   "5928807").PN.   | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/01 15:41 |
| S15 | 22 | ("4420544"   "4629664"   "4657828"   "4659634"   "5165483"   "5573866"   "5599638"   "5773162"   "5795496"   "5945231"   "5985474"   "5992008"   "6146781"   "6254748"   "6265093"   "6303244"   "6387559"   "6420059"   "6429019"   "6497975"   "6503651"   "6534210").PN. | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/01 15:45 |
| S16 | 10 | ("20010045364"   "20020076589"   "20020119353"   "5030356"   "5266206"   "5976346"   "6207306"   "6303244"   "6403248"   "6686081").PN.   | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/01 15:51 |
| S17 | 3  | (("6303244") or ("6488837") or ("6306285")).PN.   | USPAT; USOCR                              | OR | OFF | 2006/12/03 13:13 |
| S18 | 27 | ("3410780"   "3464008"   "3480520"   "4003705"   "4025412"   "4575410"   "4629664"   "4744954"   "4752361"   "4875900"   "5118398"   "5151166"   "5173166"   "5322602"   "5518830"   "5599638"   "5773162"   "5897766").PN. OR ("6306285").URPN.                            | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/03 12:52 |
| S19 | 5  | ("3425873"   "3542597"   "4195118").PN.   | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/03 13:00 |
| S20 | 9  | ("5060507"   "5176320"   "5537854"   "5581014"   "5868859"   "5936160"   "6067840"   "6306285"   "6308572").PN.   | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/03 13:04 |
| S21 | 21 | ("3410780"   "3464008"   "3480520"   "4003705"   "4025412"   "4575410"   "4629664"   "4744954"   "4752361"   "4875900"   "5118398"   "5151166"   "5173166"   "5322602"   "5518830"   "5599638"   "5773162"   "5897766").PN.   | US-PGPUB; USPAT; USOCR                    | OR | OFF | 2006/12/03 13:04 |
| S22 | 6  | ((("6303244") or ("6488837") or ("6306285")).PN.  | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2006/12/03 13:14 |
| S23 | 2  | "200123874"   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 13:15 |
| S24 | 1  | 2001-290530.NRAN.   | DERWENT                                   | OR | OFF | 2006/12/03 13:18 |
| S25 | 66 | (fuel with cell) and (sensor with volume with change)   | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/03 14:18 |

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|     |     |   |                                    |    |     |                  |
|-----|-----|---|------------------------------------|----|-----|------------------|
| S26 | 9   | (fuel with cell) and (concentration with sensor with volume with change)                | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 14:24 |
| S27 | 1   | 2004-727998.NRAN.   | DERWENT                            | OR | OFF | 2006/12/03 14:19 |
| S28 | 323 | (fuel with cell) and (concentration with sensor with change)                            | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 14:49 |
| S29 | 6   | "6527943"   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 14:43 |
| S30 | 160 | (fuel with cell) and (sensor with substrate with film)                                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:21 |
| S31 | 9   | (fuel with cell) and (sensor with substrate with pressure with film)                    | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 14:54 |
| S32 | 80  | (fuel with cell) and (sensor with pressure with film)                                   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 15:43 |
| S33 | 12  | (fuel with cell) and (sensor with pressure with film with volume)                       | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 14:55 |
| S34 | 19  | (fuel with cell) and (sensor with expansion with film)                                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:12 |
| S36 | 3   | (fuel with cell) and (sensor with change with volume with film)                         | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:21 |
| S37 | 1   | (fuel with cell) and ((sensor with substrate with film) same volume same concentration) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:22 |
| S38 | 22  | (fuel with cell) and ((sensor with substrate with film) same concentration)             | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:45 |
| S39 | 56  | "73".clas. and ((sensor with substrate with film) same concentration)                   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:54 |
| S40 | 225 | "73".clas. and ((sensor with substrate with film) same pressure)                        | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/03 16:54 |

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|     |         |  |                                    |    |    |                  |
|-----|---------|--|------------------------------------|----|----|------------------|
| S41 | 77      | "73".clas. and ((sensor with substrate with film) same electrode same pressure)  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/03 16:56 |
| S42 | 5       | "73".clas. and ((sensor with substrate with film) same electrode same pressure same concentration)                     | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/03 16:59 |
| S43 | 0       | "73".clas. and ((sensor with substrate with film) same electrode same pressure) and (polymeric with ion with exchange) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/03 17:00 |
| S44 | 0       | "73".clas. and ((sensor with substrate with film) same electrode) and (polymeric with ion with exchange)               | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/03 17:01 |
| S45 | 3       | ((sensor with substrate with film) same electrode) and (polymeric with ion with exchange)                              | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/03 17:01 |
| S46 | 1       | "20020056136"  | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 17:33 |
| S47 | 0       | 2002/0056136   | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:08 |
| S48 | 1       | "9845694"  | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:09 |
| S49 | 3466625 | EP "0181569"   | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:09 |
| S50 | 0       | "EP0181569"  | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:10 |
| S51 | 3       | "0181569"  | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:15 |
| S52 | 3       | "0072038"  | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:17 |
| S53 | 12      | "984569"   | US-PGPUB; USPAT; USOCR; EPO; JPO   | OR | ON | 2006/12/03 18:19 |

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|     |     |   |                                    |    |     |                  |
|-----|-----|---|------------------------------------|----|-----|------------------|
| S54 | 62  | (fuel with cell) and (sensor with change with film)   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 09:38 |
| S55 | 163 | (fuel with cell) and ((indicator sensor) with substrate with film)                                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 10:02 |
| S56 | 22  | (fuel with cell) and (((indicator sensor) with substrate with film) same concentration)             | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 09:41 |
| S57 | 0   | (fuel with cell) and (((indicator sensor) with substrate with film) same methanol)                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 09:43 |
| S58 | 4   | (fuel with cell) and (((indicator sensor) with substrate with film) same expan\$5)                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 10:05 |
| S59 | 5   | (fuel with cell) and (((indicator detector sensor) with substrate with film) same expan\$5)         | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 10:08 |
| S60 | 234 | (((indicator detector sensor) with substrate with film) same expan\$5)                              | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 10:08 |
| S61 | 10  | (((indicator detector sensor) with substrate with film) same concentration same expan\$5)           | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 10:22 |
| S62 | 7   | ("4260978"   "4333067"   "4477487"   "4507643"   "4536241"   "4592967"   "4614669").PN.             | US-PGPUB; USPAT; USOCR             | OR | OFF | 2006/12/06 10:13 |
| S63 | 770 | ((indicator detector sensor) with substrate with pressure with film)                                | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 10:22 |
| S64 | 24  | ((indicator detector sensor) with substrate with pressure with film) same expan\$5                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 11:31 |
| S65 | 9   | ("4390925"   "4415948"   "4550612"   "4612599"   "4996627"   "5635649").PN. OR ("6725724").URPN.    | US-PGPUB; USPAT; USOCR             | OR | OFF | 2006/12/06 10:39 |
| S66 | 0   | ((indicator detector sensor) with substrate with pressure with film) same expan\$5 same concen\$5   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 11:32 |
| S67 | 1   | ((indicator detector sensor) with substrate with pressure with film) same expan\$5 same concentr\$6 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON  | 2006/12/06 11:32 |

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|     |      |  |                                    |    |    |                  |
|-----|------|--|------------------------------------|----|----|------------------|
| S68 | 10   | ((indicator detector sensor) with substrate with film) same expan\$5 same concentr\$6                              | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 11:35 |
| S69 | 460  | ((indicator detector sensor) with substrate with film) same concentr\$6  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 11:36 |
| S70 | 36   | ((indicator detector sensor) with substrate with film) same concentr\$6 same pressure                              | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 12:02 |
| S71 | 12   | ((indicator detector sensor) with substrate with film) same concentr\$6 same volume                                | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 12:16 |
| S72 | 1    | ((indicator detector sensor) with substrate with film) same concentr\$6 same (volume with change)                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 12:11 |
| S73 | 11   | ((indicator detector sensor) with substrate with film) same concentr\$6 same pressure same change                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 12:14 |
| S74 | 1    | ((indicator detector sensor) with substrate with film) same concentr\$6 same volume same change                    | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 12:16 |
| S75 | 1102 | 429/22.ccls.   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:46 |
| S76 | 1    | 429/22.ccls. and ((indicator detector sensor) with substrate with film) same concentr\$6 same (volume with change) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 13:58 |
| S77 | 1    | 429/22.ccls. and ((indicator detector sensor) with substrate with film) same concentr\$6                           | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:00 |
| S78 | 1    | H01M008/04 and ((indicator detector sensor) with substrate with film) same concentr\$6                             | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:10 |
| S79 | 1    | H01M008/12 and ((indicator detector sensor) with substrate with film) same concentr\$6                             | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:12 |
| S80 | 1    | H01M008\$8 and ((indicator detector sensor) with substrate with film) same concentr\$6                             | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 13:59 |

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|     |      |   |   |    |     |                  |
|-----|------|---|---|----|-----|------------------|
| S81 | 0    | H01M008 and ((indicator detector sensor) with substrate with film) same concentr\$6                 | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 13:59 |
| S82 | 1    | H01M008\$ and ((indicator detector sensor) with substrate with film) same concentr\$6               | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:00 |
| S83 | 2    | 429/22.ccls. and ((indicator detector sensor) with substrate with film)                             | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:02 |
| S84 | 1201 | "73".clas. and ((indicator detector sensor) with substrate with film)                               | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:21 |
| S85 | 66   | "73".clas. and ((indicator detector sensor) with substrate with film) same concentr\$6              | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:17 |
| S86 | 72   | "204".clas. and ((indicator detector sensor) with substrate with film) same concentr\$6             | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:08 |
| S87 | 1    | "204".clas. and ((indicator detector sensor) with substrate with film) same concentr\$6 same volume | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:09 |
| S88 | 0    | "205".clas. and ((indicator detector sensor) with substrate with film) same concentr\$6 same volume | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:09 |
| S89 | 6    | H01M008/04 and ((indicator detector sensor) with substrate with film)                               | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:41 |
| S90 | 6    | H01M008/12 and ((indicator detector sensor) with substrate with film)                               | US-PGPUB; USPAT; EPO; JPO; DERWENT        | OR | ON  | 2006/12/06 14:12 |
| S91 | 2    | ("6242120").PN.   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2006/12/06 14:18 |
| S92 | 6    | (("6242120") or ("6242118") or ("6368492")).PN.   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2006/12/06 14:19 |
| S93 | 3    | ("6294277").PN.   | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT | OR | OFF | 2006/12/06 14:19 |

## EAST Search History

|      |      |  |                                    |    |    |                  |
|------|------|--|------------------------------------|----|----|------------------|
| S94  | 5    | "73".clas. and ((indicator detector sensor) with substrate with film) and (diluent)                        | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:21 |
| S95  | j    | 429/22.ccls. and ((indicator detector sensor) with substrate with film) and (diluent)                      | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:22 |
| S96  | 0    | 429/22.ccls. and ((indicator detector sensor) with substrate with film) and (water with (recyle recip\$7)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:23 |
| S97  | 1    | 429/22.ccls. and ((indicator detector sensor) with substrate with film) and water                          | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:47 |
| S98  | 231  | 429/22.ccls. and (concentration with (detect indicator sensor))  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:33 |
| S99  | 7    | 429/22.ccls. and (concentration with (detect indicator sensor)) and (substrate with film)                  | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:34 |
| S100 | 8    | H01M008/04 and (concentration with (detect indicator sensor)) and (substrate with film)                    | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:42 |
| S101 | 0    | 429/12.ccls. and (fuel with diluent with stor\$4) and (sensor with concentration)                          | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:46 |
| S102 | 1041 | 429/12.ccls.   | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:46 |
| S103 | 1    | 429/12.ccls. and ((indicator detector sensor) with substrate with film) and water                          | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:47 |
| S104 | 1    | 429/12.ccls. and ((indicator detector sensor) with substrate with film)                                    | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:47 |
| S105 | 2    | 429/17.ccls. and ((indicator detector sensor) with substrate with film)                                    | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:48 |
| S106 | 0    | 429/34.ccls. and ((indicator detector sensor) with substrate with film)                                    | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | ON | 2006/12/06 14:48 |

## EAST Search History

|          |       |   |   |    |     |                  |
|----------|-------|---|---|----|-----|------------------|
| S10<br>7 | 15931 | sensor same (polyether ether sulfone sulfonic acid)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:55 |
| S10<br>8 | 0     | sensor with (polyether with ether with sulfone with sulfonic with acid)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:56 |
| S10<br>9 | 0     | sensor with (polyether with sulfone with sulfonic with acid)  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:56 |
| S11<br>0 | 2     | sensor with (polyether with sulfonic with acid)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:57 |
| S11<br>1 | 102   | sensor with (sulfonated with polyolefin polysulfone)  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:58 |
| S11<br>2 | 1     | sensor with (sulfonated with polyolefin polysulfone) with concentration   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:59 |
| S11<br>3 | 0     | sensor with (sulfonated with polyolefin polysulfone) with methanol  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:59 |
| S11<br>4 | 0     | sensor with (sulfonated with polyolefin polysulfone) same methanol  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 15:59 |
| S11<br>5 | 4     | sensor with (sulfonated with polyolefin polysulfone) same concentration   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 16:02 |
| S11<br>6 | 19    | sensor same (sulfonated with polyolefin polysulfone) same concentration   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 16:13 |
| S11<br>7 | 0     | sensor same (polystyrene with sulfonic with acid) same concentration  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 16:17 |
| S11<br>8 | 4     | sensor same (polystyrene with sulfonic with acid) same concentration  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 16:32 |
| S11<br>9 | 13    | ("4721601"   "4820595"   "5145645"   "5208301"   "5250163"   "5252292"   "5331287"   "5417150"   "5536473"   "5556700"   "5585038"   "5624605"   "5756879").PN. | US-PGPUB;<br>USPAT;<br>USOCR                | OR | OFF | 2006/12/16 16:31 |

## EAST Search History

|          |     |   |   |    |    |                  |
|----------|-----|---|---|----|----|------------------|
| S12<br>0 | 1   | sensor same (polystyrene with sulfonic with acid) same methanol   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:32 |
| S12<br>1 | 4   | sensor same (polystyrene with sulfonic with acid) same resin  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:33 |
| S12<br>2 | 77  | concentration same (polystyrene with sulfonic with acid) same resin   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:37 |
| S12<br>3 | 281 | concentration same (sulfonated with polyolefin polysulfone) same resin  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:38 |
| S12<br>4 | 3   | concentration same (sulfonated with polyolefin polysulfone) same resin same (indicator detector sensor)       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:41 |
| S12<br>5 | 2   | concentration same (sulfonated with poly\$1olefin poly\$1sulfone) same resin same (indicator detector sensor) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:41 |
| S12<br>6 | 2   | methanol same (sulfonated with poly\$1olefin poly\$1sulfone) same resin same (indicator detector sensor)      | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:55 |
| S12<br>7 | 0   | methanol same (polyether with sulfone with sulfonic with acid) same resin same (indicator detector sensor)    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:44 |
| S12<br>8 | 0   | (polyether with sulfone with sulfonic with acid) same resin same (indicator detector sensor)                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:44 |
| S12<br>9 | 0   | (polyether with sulfonic with acid) same resin same (indicator detector sensor)                               | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:44 |
| S13<br>0 | 117 | (sulfonic with acid) same resin same (indicator detector sensor)  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:49 |
| S13<br>1 | 0   | (sulfonic with acid with poly\$1ether) same resin same (indicator detector sensor)                            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:00 |
| S13<br>2 | 13  | (sulfonic with acid) same resin same (indicator detector sensor) same concentration                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 16:46 |

## EAST Search History

|          |      |   |   |    |     |                  |
|----------|------|---|---|----|-----|------------------|
| S13<br>3 | 7    | methanol same (sulfonic with acid) same resin same (indicator detector sensor)  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 16:49 |
| S13<br>4 | 6    | methanol same (sulfonated with poly\$1olefin poly\$1sulfone) same (indicator detector sensor)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 16:56 |
| S13<br>5 | 24   | ("2790081"   "2852693"   "3729264"   "4286327"   "4296324"   "4297579"   "4383181"   "4391253"   "4503994"   "4567366"   "4577970"   "4587427"   "4594510"   "4594968"   "4596931"   "4647776"   "4749274"   "4770129"   "4771176"   "4772790"   "4800279"   "4808825").PN. | US-PGPUB;<br>USPAT;<br>USOCR                | OR | OFF | 2006/12/16 16:58 |
| S13<br>6 | 263  | (sulfonic with acid with poly\$1ether) same resin   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:01 |
| S13<br>7 | 1    | (sulfonic with acid with poly\$1ether) same resin same (expand swell)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:01 |
| S13<br>8 | 2    | (sulfonic with acid with poly\$1ether) same resin same (expans\$5 swell)  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:02 |
| S13<br>9 | 0    | (sulfonated with poly\$1olefin) same resin same (expans\$5 swell)   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:03 |
| S14<br>0 | 2    | (sulfonated with poly\$1olefin) same (expans\$5 swell)  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:03 |
| S14<br>1 | 6    | ("3375208"   "3821127"   "4256845"   "4265959").PN.   | US-PGPUB;<br>USPAT;<br>USOCR                | OR | OFF | 2006/12/16 17:08 |
| S14<br>2 | 37   | nafion same sulf\$5 same sensor   | US-PGPUB;<br>USPAT;<br>USOCR                | OR | OFF | 2006/12/16 17:09 |
| S14<br>3 | 38   | nafion same sulf\$5 same sensor   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2006/12/16 17:09 |
| S14<br>4 | 48   | nafion same sulf\$5 same sensor   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:21 |
| S14<br>5 | 1072 | sulf\$5 same sensor same concentration  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON  | 2006/12/16 17:22 |

## EAST Search History

|          |     |  |   |    |    |                  |
|----------|-----|--|---|----|----|------------------|
| S14<br>6 | 13  | sulf\$5 same sensor same concentration same resin              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:24 |
| S14<br>7 | 7   | methanol same sensor same concentration same resin             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:30 |
| S14<br>8 | 1   | methanol same sensor same concentration same sulfonic          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:30 |
| S14<br>9 | 1   | methanol same sensor same concentration same sulfonated        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:30 |
| S15<br>0 | 0   | methanol same sensor same concentration same polystyrene       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:30 |
| S15<br>1 | 4   | methanol same sensor same concentration same polystyrene       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/16 17:30 |
| S15<br>2 | 131 | sensor with ion with conductive with polymer                   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 13:28 |
| S15<br>3 | 12  | (sensor with ion with conductive with polymer) same sulf\$6    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 13:43 |
| S15<br>4 | 7   | (sensor with ion with conductive with polymer) same sulfonic   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 13:44 |
| S15<br>5 | 5   | (sensor with ion with conductive with polymer) same sulfonated | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 13:53 |
| S15<br>6 | 1   | (sensor with polyolefin with sulfonated)                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 13:58 |
| S15<br>7 | 13  | (sensor with polystyrene with sulfonic with acid)              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 14:04 |
| S15<br>8 | 4   | (sensor with methanol with sulfon\$5)                          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | ON | 2006/12/18 14:04 |